

3.7 Meter ESA

Like all ASC Signal earth station antennas, the 3.7 Meter Earth Station Antenna provides high gain and exceptional pattern characteristics.

This antenna system is designed to address the stringent requirements of both the television broadcast industry and telecommunications network operators who demand unsurpassed flexibility and electrical performance in high-quality, cost-effective, and reliable packages.

The electrical performance and exceptional versatility provides the ability to configure the antenna with your choice of linearly- or circularly- polarized 2- or 4- port combining networks. That versatility is provided at the time of initial purchase, as well as in the future, as your satellite communication requirements evolve.

This antenna system is used worldwide in broadcast applications and high density data, voice and communications networks. The ASC Signal 3.7 meter earth station antenna features a computer-optimized dual reflector Gregorian optics system and close-tolerance manufacturing techniques.

This combination provides extremely accurate surface contour resulting in exceptionally high gain and closely controlled pattern characteristics. ASC Signal earth station antennas provide maximum durability with minimal maintenance.



Features

- Self-aligning main reflector
- 3 year warranty on all structural components
- Eutelsat Type Approval, 2-Port Ku-band EA-A002
- Asiasat Approval, Type 2
- Apstar Approval
- INTELSAT® Approval, E-2 at Ku-band: A12A00, 2-Port; IA12B00, 4-Port
- U.S. FCC Regulation 25.209 at Ku-band
- Russian Homologation Certificate OC/1-AO-136
- C, X, Ku, K Band Capabilities

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EARTH STATION ANTENNA

Design Standards

Reflector	Aluminum painted with highly diffusive white paint
Ground Mount	Hot-dipped galvanized steel, per ASTM-A123 for structural steel.
Hardware	Sizes ≤ 3/8 in (9.5mm), stainless steel, passivated per MIL-F-14072-E300 Sizes ≥ 3/8 in (9.5mm), hot-dipped galvanized stainless steel, passivated per ASTM-A123

Environmental Performances

Operating Temperature	-40° to 52°C (-40° to 125°F)
Seismic (Earthquake)	1 G Vertical and Horizontal acceleration. Equivalent to a Richter Magnitude 8.3, and Grade 11 on the modified Mercalli Scale
Operational Winds	45 mph (72 km/h) Gusts to 65 mph (105 km/h)
Survival Winds	125 mph (200 km/h) in any position of operation
Rain	4 in (102 mm) per hour
Solar Radiation	360 BTU/hr/ft ² (1135 Watts/m ²)
Relative Humidity	100%
Shock and Vibration	As encountered by commercial Air, Rail and Truck shipment.
Atmospheric Conditions	As encountered by Moderately Corrosive Coastal and Industrial Areas.

Mechanical Performances

The 3.7m Antenna mechanical general specifications and performances are listed in below table. Additional information, dimensions and layout may be provided by ASC Signal on a case-by-case basis.

Optics Type	Dual Reflector Gregorian
Reflector Material	Precision-Formed Aluminum
Reflector Segments	2
Mount Type	Az over El, Pedestal Mount

Antenna Pointing Range, Coarse/(Continuous)

Elevation:	0-90° (90°)
Azimuth:	180° (120°)
Polarization	180° (180°)

Hub/Enclosure Dimensions

Diameter	1.22 m (48 in)
Depth	0.61 m (24 in) optional 0.83m (32.5 in)

Shipping Information

Packing Options

Standard Commercial Domestic Pack	Included
Ocean Export Pack - For non-containerized, packed for seal against salt water spray	OCEANSHP-SML
Air Export Pack - For freighter aircraft shipments. Lower deck AirPack requires specialized bids	AIR EXPORT PACK-SML
Container Packaging	CNTPCK-SML

Required Shipping Container

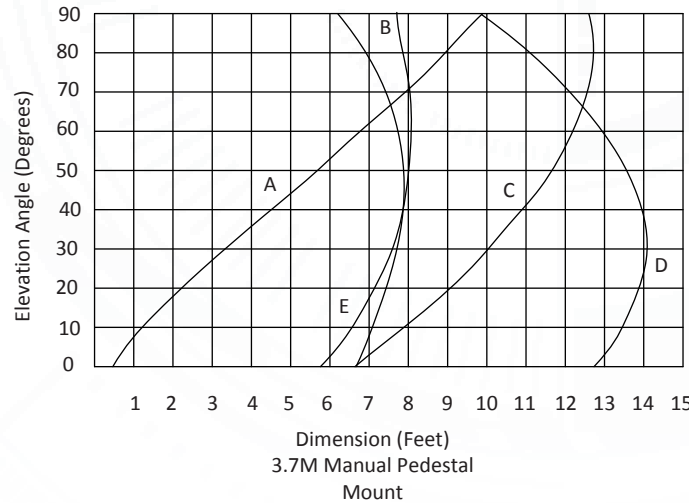
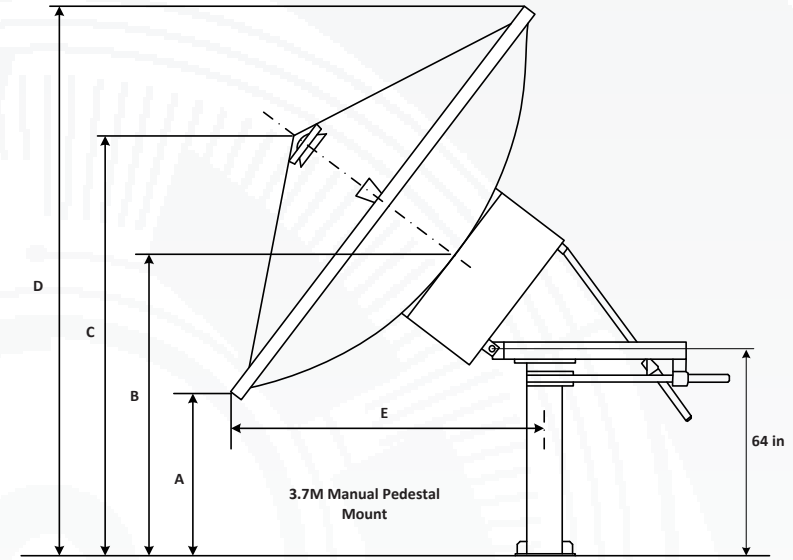
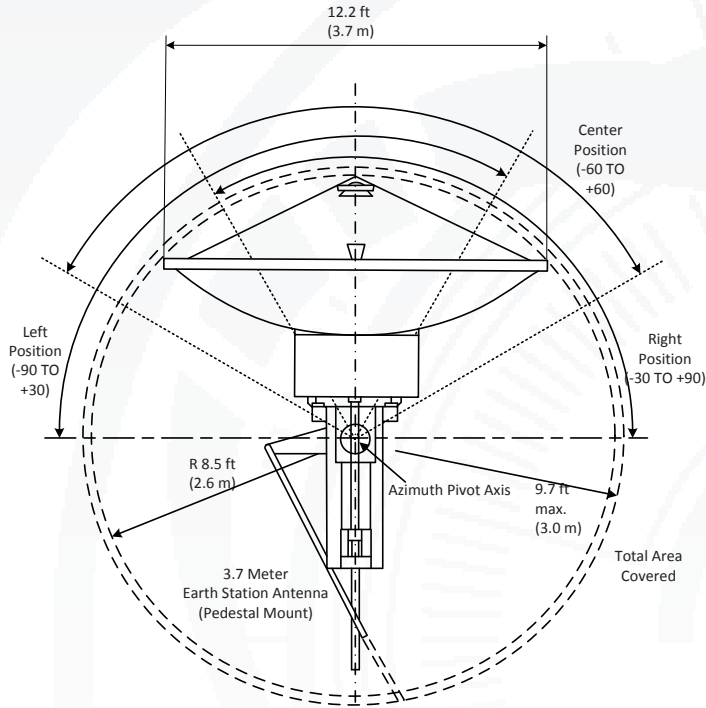
Standard 20 ft land/sea container	Quantity 1
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Shipping container information is given for basic configuration and may vary depending on the selected options, please contact ASC Signal for specific container loading plan.

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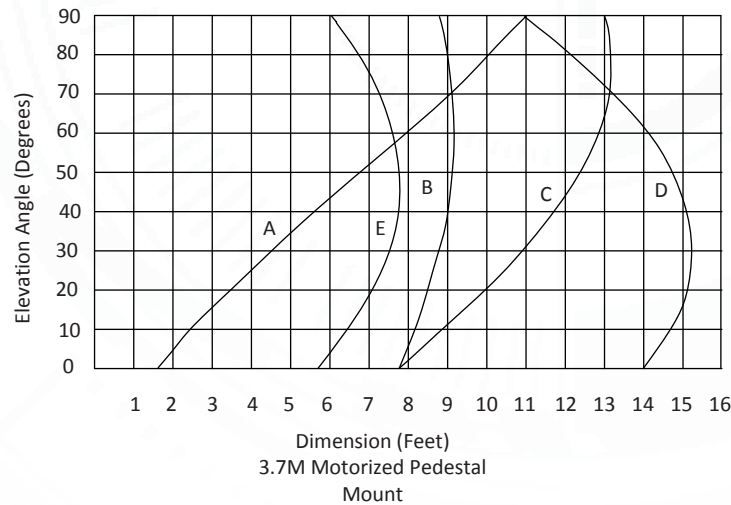
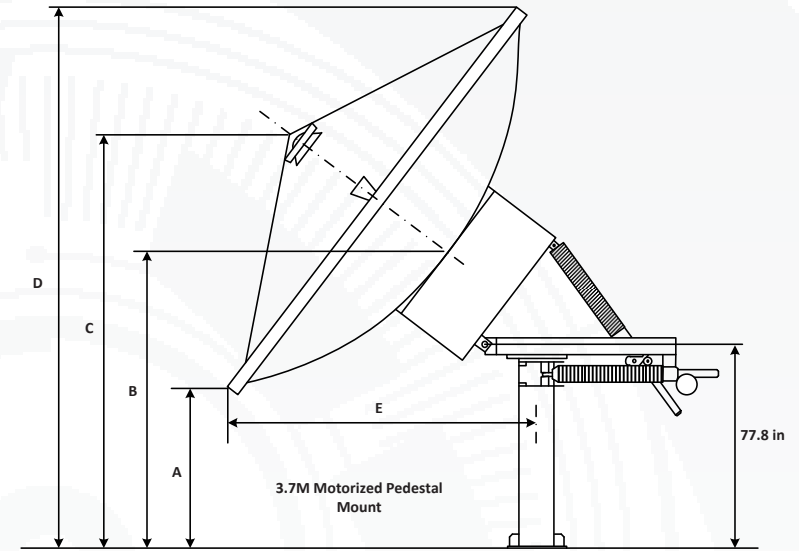
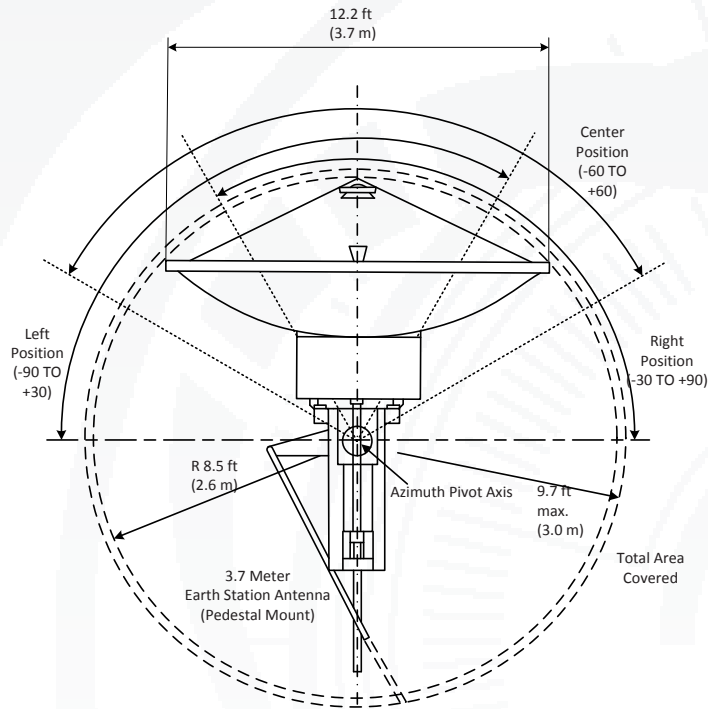
Dimensional Drawings Non Motorizable Mount

EARTH STATION ANTENNA



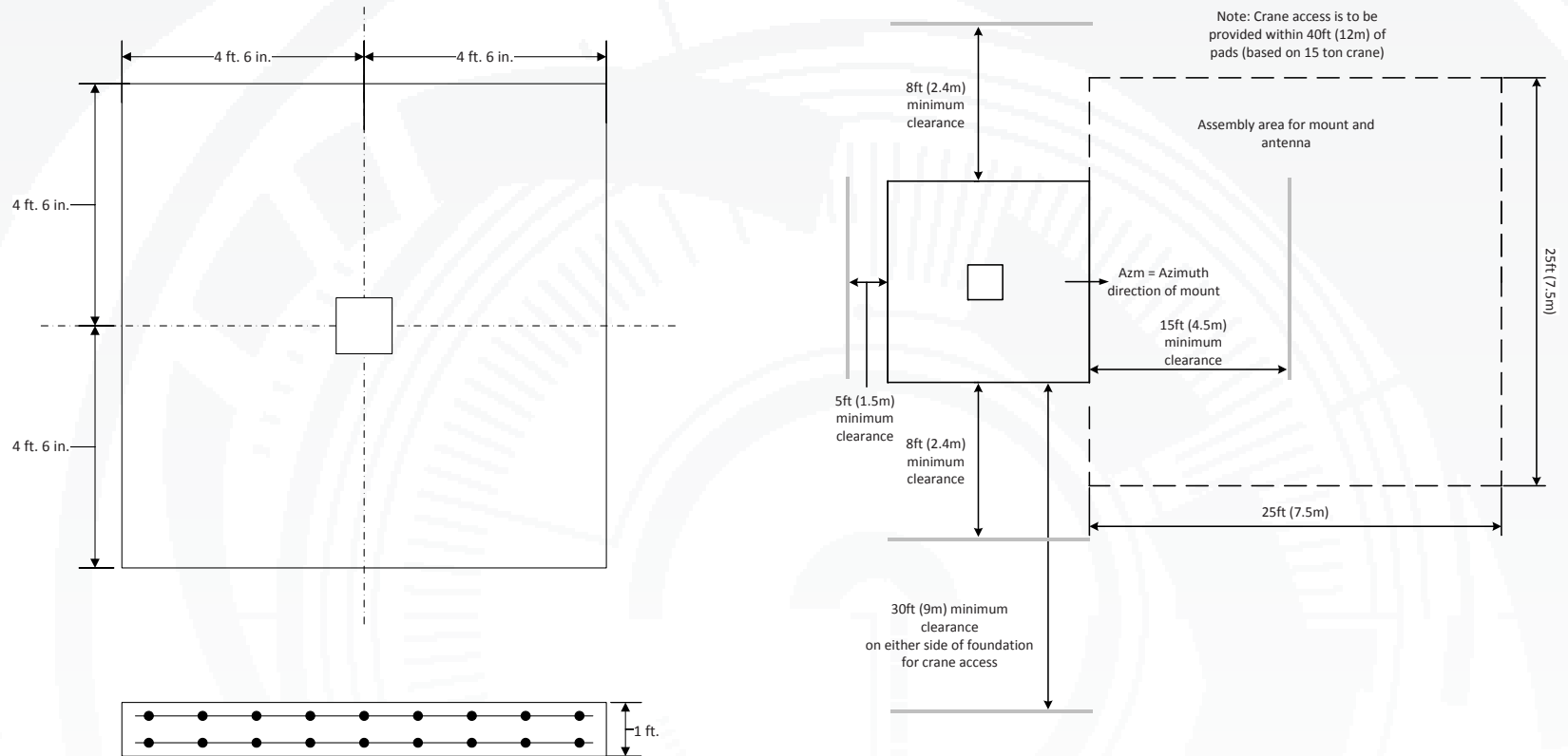
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Dimensional Drawings Motorizable Mount



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Foundation, Typical Slab



Foundation information are provided in bulletin 37835A, please contact ASC Signal.

Soil Bearing Capacity,	2000 lb/ft ² (9770 kg/m ²)
Reinforcing Steel,	194 Lbs (88 Kilograms)
Concrete Compressive Strength,	3000 psi (211 kg/cm ²)
Foundation Size:	(for specific standard soil and typical design)
Length	9 ft (2.74 m)
Width	9 ft (2.74 m)
Depth	1 ft (0.305 m)
Concrete Volume	3 yd ³ (2.3 m ³)

NOTE: Other typical foundation designs are available. Soil borings and foundation analysis should be performed by a qualified civil engineer.

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Motor Drive Speed Summary

	Variable	
Azimuth	0.5°/s	0.05°/s
Elevation	0.5°/s	0.05°/s
Polarization	1°/s	

Motorization

Two motorization systems are available for this antenna: the NGC tracking system that can support Steptrack, Smartrack and Ephemeris orbital tracking or the NGC-LTE non-tracking application.

Motor Kit

Azimuth/Elevation Motor Kit	NGC-MK4
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Polarization Drive Kit (DC Step Motors)

Standard Temperature (> -20°C)	NGC-PK5DRA
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Outdoor Unit Controller (Tracking)

Power 200 - 230 VAC, 3 Phase 50/60 Hz	NGC-ODU-208-3
Power 380 - 460 VAC, 3 Phase 50/60 Hz	NGC-ODU-380-3

Outdoor Unit Controller (Non-Tracking)

Power 200 - 230 VAC, 3 Phase 50/60 Hz	NGC-ODU-LTE-208-3
Power 380 - 460 VAC, 3 Phase 50/60 Hz	NGC-ODU-LTE-380-3

Antenna controller, motorization and options are detailed in specific bulletins, please contact ASC Signal..

Antenna Configurations

X, Ku, K Band Earth Station Antennas

Manual Pedestal Mount.	ES37PK-1
Motorizable Mount without Az/EI Jackscrews.	ES37MPK-1
Motorizable Mount with Az/EI Jackscrews.	ES37MPJK-1

C Band Earth Station Antennas

Manual Pedestal Mount.	ES37PK-EC-1
Motorizable Mount without Az/EI Jackscrews.	ES37MPK-EC-1
Motorizable Mount with Az/EI Jackscrews.	ES37MPJK-EC-1

Motorization and NGC Options

Indoor	
NGC-IDU	NGC Rack Mounted Antenna Controller W/LCD Touch Panel
NGC-001	NGC-IDU Analog Telephone Modem
NGC-002	NGC-IDU Spectrum Analyzer Card - Analog
NGC-003	NGC-IDU DVB Receiver Card
NGC-004-02	NGC IDU, L-Band Internal Beacon Receiver
NGC-006	NGC-IDU Emergency Stop Button
NGC-007	NGC-IDU 10 Mhz Reference Source
NGC-008	NGC-IDU Redundant Power Supply
NGC-009	NGC-IDU Rack Slides
NGC-101	NGC-IDU Step Tracking Software
NGC-102	NGC-IDU Smartrack Software
NGC-103	NGC-IDU Predictive Track Software
NGC-104	NGC-IDU Full Tracking Capability Software
NGC-106	NGC-IDU Remote Access Software Package
NGC-107	NGC-IDU Spectrum Analyzer Enhanced User Interface
NGC-108	Receive Pattern Test Tool
NGC-109	Redundancy Control Software
NGC-111	Environmental System Control Interface
NGC-112	Sand/Dust/Debris Interface
NGC-115	Uplink Power Control Software Function
NGC-ULPC-INTFC	Uplink Power Control System Single Channel
NGC-119	NGC High Availability System Redundancy Software
NGC-ULPC-INTFC-2	Uplink Power Control System Dual Channel

Outdoor	
NGC-201	NGC ODU Low Temperature Kit (-40 C)
NGC-202	NGC ODU High Temperature Kit (+60 C)
NGC-205	NGC ODU Polarization Drive Interface
NGC-206	NGC Exterior Emergency Stop Button
NGC-207	Pre Movement Alert Warning Light And Annunciator
NGC-211	Dual Path NGC Redundancy
NGC-AESC	Kit,Antenna Environmental System Controller
RED11-x	Hub Mounted 1:1 LNA/LNB Redundancy Plate
RED12-x	Hub Mounted 1:2 LNA/LNB Redundancy Plate

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Feed Matrix

C- BAND FEED SYSTEMS	PORT	CP	LP	RX 3.625 - 4.2 GHz	TX 5.850 - 6.425 GHz
2CPC-37-109	2	X	X	X	X
2CPCR-37-109	2	X		X	

X- BAND FEED SYSTEMS	PORT	CP	RX 7.25 - 7.75 GHz	TX 7.9 - 8.4 GHz
2CPX-37	2	X	X	X

Ku- BAND FEED SYSTEMS	PORT	LP	RX 10.95-12.75 GHz	RX 10.95-12.25 GHz	RX 10.7 - 12.75 GHz	RX 10.7 - 13.25 GHz	RX 10.7 - 11.7 GHz	TX 12.75-13.25 GHz	TX 14.0 - 14.5 GHz	TX 13.75-14.8 GHz
2LPK-37-W	2	X	X						X	
2LPKR-37-W	2	X	X							
2LPKUNV-37	2	X				X				X
4LPK-37-W	4	X		X					X	
4LPKUNV-37-1	4	X			X					X
4LPKUNV-37-2	4	X					X	X		X

K- BAND FEED SYSTEMS	PORT	LP	CP	RX 10.7 - 12.75 GHz	TX 17.3 - 18.4 GHz
2LPKK-37	2	X		X	X
4LPKK-37	4	X		X	X
4CPKK-37-206	4		X	X	X

For redundant application, LNA support kits are available for each of the above feeds. Please contact ASC Signal.

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Antenna Options and Spares

EARTH STATION ANTENNA

Anchor Bolt and Template Kits Option	
203314	Anchor Bolt Kit for 3.7 Meter Earth Station

Azimuth and Elevation Cross Axis Waveguide Options	
1XAK-5	Ku-Band Cross Axis Waveguide Kit, 2-Port.
1XAKK-5	K-Band Cross Axis Waveguide Kit, 2-Port.
1XAX-37	X-Band Cross Axis Waveguide Kit, 2-Port.
1XPK-37	Ku-Band Polarization Waveguide Kit, 2-Port.
1XPKK-37	K-Band Polarization Waveguide Kit, 2-Port.
1XPX-37	X-Band Polarization Waveguide Kit, 2-Port.
2XAK-5	Ku-Band Cross Axis Waveguide Kit, 4-Port.
2XAKK-5	K-Band Cross Axis Waveguide Kit, 4-Port.
2XPK-37	Ku-Band Polarization Waveguide Kit, 4-Port.
2XPKK-37	K-Band Polarization Waveguide Kit, 4-Port.
2XPX-37	X-Band Polarization Waveguide Kit, 4-Port.

Heating Options	
FH4A	C-Band Feed Heater Kit
FHXA	X-Band Feed Heater
FH5A	Ku and K-Band Feed Heater
FR37A	Full-Reflector Heater Pads
WEC37R-208-100	Electric Hot Air De-Ice System, 208 VAC, 3 Phase
WEC37R-380-100	Electric Hot Air De-Ice System, 380 VAC, 3 Phase

Upgrade Options	
37CUPGK	Kit to Convert from C-Band to Ku-Band
37CUPGX	Kit to Convert From C-Band to X-Band
37KUPGC	Kit to Convert From Ku-Band to C-Band
37KUPGX	Kit to Convert From Ku-Band to X-Band

Hub Equipment Options	
EMRGYLT-115	Emergency Hub Light Kit, 115 VAC
EMRGYLT-230	Emergency Hub Light Kit, 230 VAC
FV5-115	Fan and Vent Kit, 115 VAC
FV5-220	Fan and Vent Kit, 230 VAC
FV5HV-115	High Volume Fan and Vent Kit, 115 VAC
FV5HV-230	High Volume Fan and Vent Kit, 230 VAC
FV5HV-48	High Volume Fan and Vent Kit, 48VDC
HUBHTR-230	Antenna Hub Heater, 230 VAC
HUBLCNTR-115/240	Hub Power Center, 115/240 VAC
HUBLCNTR-230	Hub Power Center, 230 VAC
HUBLT-115	Hub Light Kit, 115 VAC
HUBLT-230	Hub Light Kit, 230 VAC

Safety Options	
ANTGND-5	Foundation Installed Grounding Kit
LRK5	Lightening Rod Kit
OBWRNLT-115	Obstruction Warning Light Kit, 115VAC
OBWRNLT-230	Obstruction Warning Light Kit, 230VAC

Other Options	
207885	Hand Crank Adjustment Kit
209906	Lubrication and Maintenance Kit
221196	Elevation Handwheel Kit (2 required)
BRNG-374676-X	Guard, Feed Window X-band
BRNG-3746-C	Guard, Feed Window C-band
BRNG-37-K	Guard, Feed Window K-band
BRNG-37-KU	Guard, Feed Window Ku-band
FTST	Feed System Testing
TK-MAN-SML	Tool Kit, Small Manual Antennas
TK-MOT-SML	Tool Kit, Small Motorized Antennas

Environmental Systems Options	
PDKU-37-208	Precipitation Deviator Ku-band 208 VAC, 3 Phase
PDKU-37-380	Precipitation Deviator Ku-band 380 VAC, 3 Phase

4.5 Meter Pedestal Mount ESA

Like all ASC Signal earth station antennas, the 4.5 Meter Earth Station Antenna provides high gain and exceptional pattern characteristics.

This antenna system is designed to address the stringent requirements of both the television broadcast industry and telecommunications network operators who demand unsurpassed flexibility and electrical performance in high-quality, cost-effective, and reliable packages.

The electrical performance and exceptional versatility provides the ability to configure the antenna in C-, X- and Ku-bands with the proper selection of feed and combiner systems. That versatility is provided at the time of initial purchase, as well as in the future, as your satellite communication requirements evolve.

This antenna system is used worldwide in broadcast applications and high density data, voice and communications networks. The ASC Signal 4.5 meter earth station antenna features a computer-optimized dual reflector Gregorian optics system and close-tolerance manufacturing techniques.

This combination provides extremely accurate surface contour resulting in exceptionally high gain and closely controlled pattern characteristics. ASC Signal earth station antennas provide maximum durability with minimal maintenance.



Features

- Self-aligning main reflector requires no field alignment
- Installation without a crane using optional hoisting kit
- Prime focus feed system optics and fully-shaped parabolic main reflector provide excellent pattern characteristics
- 3 year warranty on all structural components
- C, X, Ku Band Capabilities

4.5 Meter Pedestal Mount ESA

EARTH STATION ANTENNA

Design Standards

Reflector	Aluminum painted with highly diffusive white paint
Ground Mount	Hot-dipped galvanized steel, per ASTM-A123 for structural steel.
Hardware	Sizes ≤ 3/8 in (9.5mm), stainless steel, passivated per MIL-F-14072-E300 Sizes ≥ 3/8 in (9.5mm), hot-dipped galvanized stainless steel, passivated per ASTM-A123

Environmental Performances

Operating Temperature	-40° to 52°C (-40° to 125°F)
Seismic (Earthquake)	1 G Vertical and Horizontal acceleration. Equivalent to a Richter Magnitude 8.3, and Grade 11 on the modified Mercalli Scale
Operational Winds	45 mph (72 km/h) Gusts to 65 mph (105 km/h)
Survival Winds	125 mph (200 km/h) in any position of operation
Rain	4 in (102 mm) per hour
Solar Radiation	360 BTU/hr/ft ² (1135 Watts/m ²)
Relative Humidity	100%
Shock and Vibration	As encountered by commercial Air, Rail and Truck shipment.
Atmospheric Conditions	As encountered by Moderately Corrosive Coastal and Industrial Areas.

Mechanical Performances

The 4.5m Antenna mechanical general specifications and performances are listed in below table. Additional information, dimensions and layout may be provided by ASC Signal on a case-by-case basis.

Optics Type	Prime Focus
Reflector Material	Precision-Formed Aluminum
Reflector Segments	6
Mount Type	Az over El, Pedestal Mount
Antenna Pointing Range, Coarse/(Continuous)	
Elevation:	0-90° (90°)
Azimuth:	180° (120°)
Polarization	180° (180°)

Shipping Information

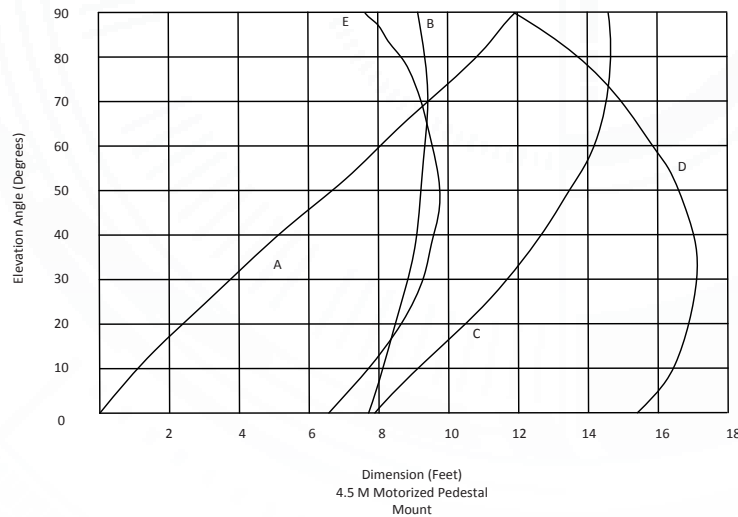
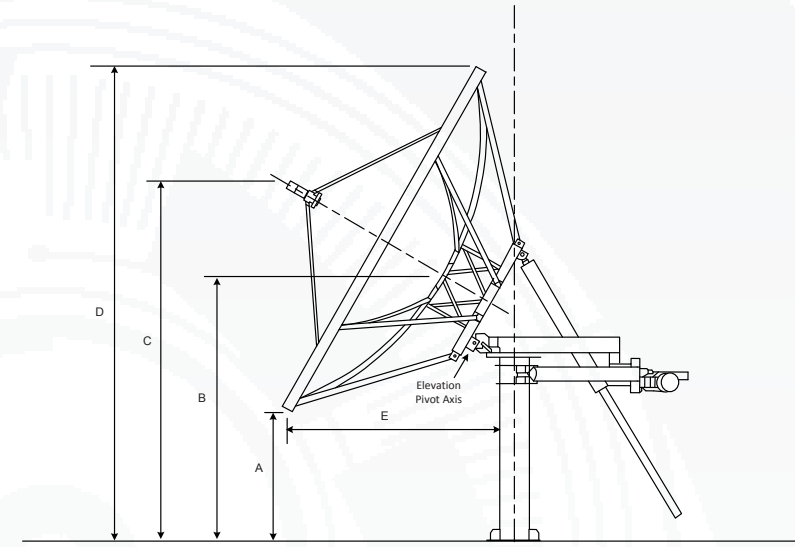
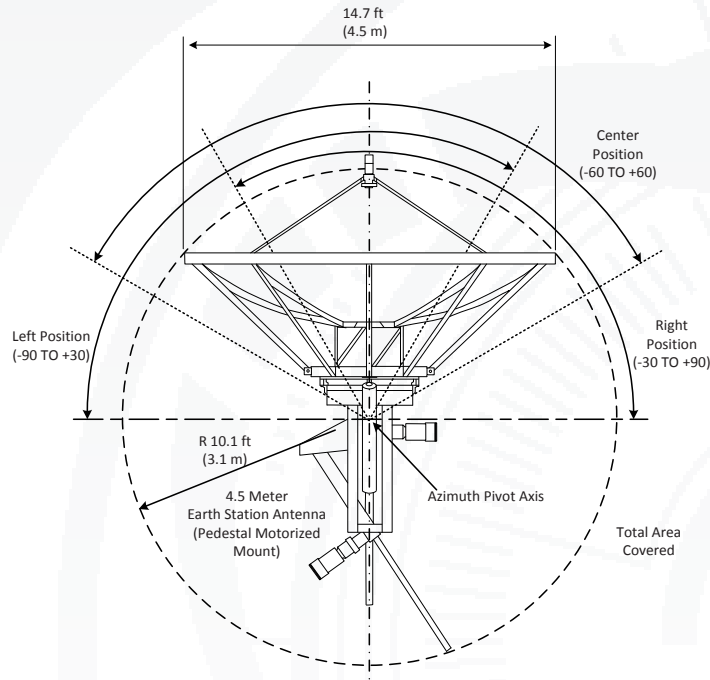
Packing Options	
Standard Commercial Domestic Pack	Included
Ocean Export Pack - For non-containerized, packed for seal against salt water spray	OCEANSHIP-SML
Air Export Pack - For freighter aircraft shipments. Lower deck AirPack requires specialized bids	AIR EXPORT PACK-SML
Container Packaging	CNTPCK-SML
Required Shipping Container	
Standard 20 ft land/sea container	Quantity 1

Shipping container information is given for basic configuration and may vary depending on the selected options, please contact ASC Signal for specific container loading plan.

4.5 Meter Pedestal Mount ESA

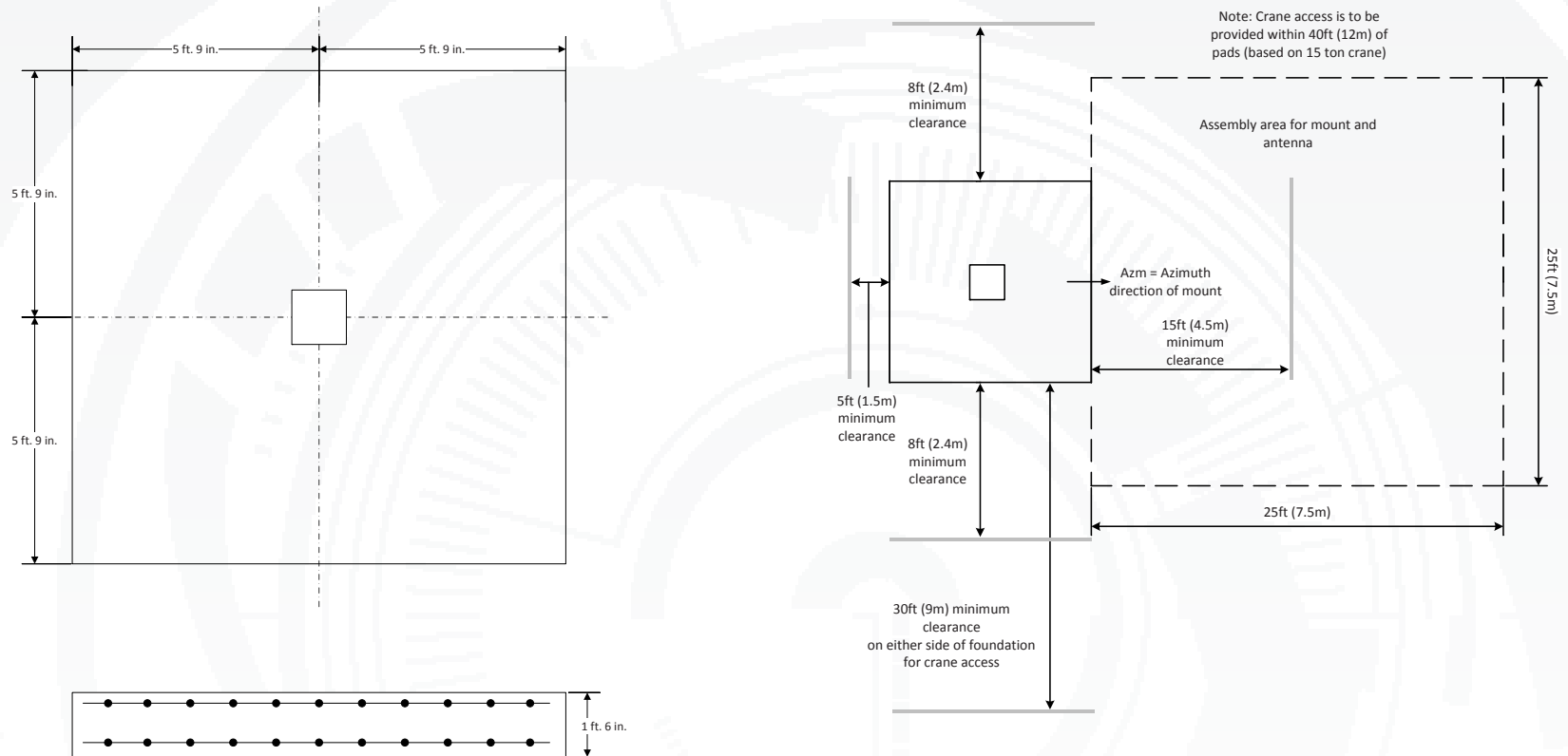
Dimensional Drawings Motorizable Mount

EARTH STATION ANTENNA



4.5 Meter Pedestal Mount ESA

Foundation, Typical Slab



Foundation information are provided in bulletin 37846C, please contact ASC Signal.

Soil Bearing Capacity,	2000 lb/ft ² (9770 kg/m ²)
Reinforcing Steel,	688 Lbs (312 Kilograms)
Concrete Compressive Strength,	3000 psi (211 kg/cm ²)
Foundation Size:	(for specific standard soil and typical design)
Length	11 ft 6 in(3.5 m)
Width	11 ft 6 in(3.5 m)
Depth	1 ft 6 in(0.457 m)
Concrete Volume	7.35 yd ³ (5.62 m ³)
NOTE: Other typical foundation designs are available. Soil borings and foundation analysis should be performed by a qualified civil engineer.	

4.5 Meter Pedestal Mount ESA

EARTH STATION ANTENNA

Motor Drive Speed Summary

	Variable	
Azimuth	0.5°/s	0.05°/s
Elevation	0.5°/s	0.05°/s
Polarization	1°/s	

Motorization

Two motorization systems are available for this antenna: the NGC tracking system that can support Steptrack, Smartrack and Ephemeris orbital tracking or the NGC-LTE non-tracking application.

Motor Kit

Azimuth/Elevation Motor Kit	NGC-MK4
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Polarization Drive Kit (DC Step Motors)

Standard Temperature (> -20°C)	NGC-PK5PF
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Outdoor Unit Controller (Tracking)

Power 200 - 230 VAC, 3 Phase 50/60 Hz	NGC-ODU-208-3
Power 380 - 460 VAC, 3 Phase 50/60 Hz	NGC-ODU-380-3

Outdoor Unit Controller (Non-Tracking)

Power 200 - 230 VAC, 3 Phase 50/60 Hz	NGC-ODU-LTE-208-3
Power 380 - 460 VAC, 3 Phase 50/60 Hz	NGC-ODU-LTE-380-3

Antenna controller, motorization and options are detailed in specific bulletins, please contact ASC Signal..

Antenna Configurations

C, X, Ku Band Earth Station Antennas

Manual Pedestal Mount.	ES45P-1
Motorizable Mount without Az/EI Jackscrews.	ES45MP-1
Motorizable Mount with Az/EI Jackscrews.	ES45MPJ-1

Motorization and NGC Options

Indoor	
NGC-IDU	NGC Rack Mounted Antenna Controller W/LCD Touch Panel
NGC-001	NGC-IDU Analog Telephone Modem
NGC-002	NGC-IDU Spectrum Analyzer Card - Analog
NGC-003	NGC-IDU DVB Receiver Card
NGC-004-02	NGC IDU, L-Band Internal Beacon Receiver
NGC-006	NGC-IDU Emergency Stop Button
NGC-007	NGC-IDU 10 Mhz Reference Source
NGC-008	NGC-IDU Redundant Power Supply
NGC-009	NGC-IDU Rack Slides
NGC-101	NGC-IDU Step Tracking Software
NGC-102	NGC-IDU Smartrack Software
NGC-103	NGC-IDU Predictive Track Software
NGC-104	NGC-IDU Full Tracking Capability Software
NGC-106	NGC-IDU Remote Access Software Package
NGC-107	NGC-IDU Spectrum Analyzer Enhanced User Interface
NGC-108	Receive Pattern Test Tool
NGC-109	Redundancy Control Software
NGC-111	Environmental System Control Interface
NGC-115	Uplink Power Control Software Function
NGC-119	NGC High Availability System Redundancy Software
NGC-ULPC-INTFC	Uplink Power Control System Single Channel
NGC-ULPC-INTFC-2	Uplink Power Control System Dual Channel

Outdoor	
NGC-201	NGC ODU Low Temperature Kit (-40 C)
NGC-202	NGC ODU High Temperature Kit (+60 C)
NGC-205	NGC ODU Polarization Drive Interface
NGC-206	NGC Exterior Emergency Stop Button
NGC-207	Pre Movement Alert Warning Light And Annunciator
NGC-211	Dual Path NGC Redundancy

4.5 Meter Pedestal Mount ESA

Feed Matrix

C- BAND FEED SYSTEMS	PORT	CP	LP	CO	RX 3.4 - 4.2 GHz	RX 3.625 - 4.2 GHz	RX 4.5 - 4.8 GHz	TX 5.850 - 6.425 GHz	TX 5.850 - 6.725 GHz	TX 6.725 - 7.025 GHz
2CLPC-45	2			X		X		X		
2CPC-45-109	2	X	X			X		X		
2CPCR-45-109	2	X				X				
2CPWCR-45-120	2	X			X					
2LPC-45	2		X			X		X		
2LPCR-45	2		X			X				
2LPWC-45	2		X		X				X	
2LPWCR-45	2		X		X					
2LPUC-45	2		X				X			X
4CPNC-45-206	4	X				X		X		
4LPCM-45	4		X			X		X		

X- BAND FEED SYSTEMS	PORT	CP	RX 7.25 - 7.75 GHz	TX 7.9 - 8.4 GHz
2CPX-45	2	X	X	X

Ku- BAND FEED SYSTEMS	PORT	LP	RX 10.95- 12.75 GHz	RX 10.7 - 13.25 GHz	TX 13.75- 14.8 GHz
2LPKR-37-W	2	X	X		
2LPKUNV-37	2	X		X	X

C/Ku- BAND FEED SYSTEMS	PORT	KU LP	C LP	C CP	RX 3.625 - 4.2 GHz	RX 10.95- 12.75 GHz
4CPCLKR-45-W	4	X		X	X	X
4LPCKR-45-W	4	X	X		X	X

4.5 Meter Pedestal Mount ESA

Antenna Options and Spares

Anchor Bolt and Template Kits Option	
203666	Anchor Bolt Kit for 4.5 Meter Earth Station
Azimuth and Elevation Cross Axis Waveguide Options	
1XAC-45	C-Band Cross Axis Waveguide Kit, 2-Port.
1XPC-45	C-Band Polarization Waveguide Kit, 2-Port.
1XPK-45	Ku-Band Polarization Waveguide Kit, 2-Port.
2XAC-45	C-Band Cross Axis Waveguide Kit, 4-Port.
2XPC-45	C-Band Polarization Waveguide Kit, 4-Port.
2XPK-45	Ku-Band Polarization Waveguide Kit, 4-Port.
Heating Options	
FR45A	Full-Reflector Heater Pads
WEC45R-208-100	Electric Hot Air De-Ice System, 208 VAC, 3 Phase
WEC45R-380-100	Electric Hot Air De-Ice System, 380 VAC, 3 Phase

Safety Options	
ANTGND-5	Foundation Installed Grounding Kit
LRK5	Lightening Rod Kit
OBWRNLT-115	Obstruction Warning Light Kit, 115VAC
OBWRNLT-230	Obstruction Warning Light Kit, 230VAC
Other Options	
207885	Hand Crank Adjustment Kit
209906	Lubrication and Maintenance Kit
221196	Elevation Handwheel Kit (2 required)
7585441	Kit,Feed Constraint,4.5M
FTST	Feed System Testing
TK-MAN-SML	Tool Kit, Small Manual Antennas
TK-MOT-SML	Tool Kit, Small Motorized Antennas

EARTH STATION ANTENNA

Advanced Modular Decoder

MRD 5800



The flagship MRD 5800 Advanced Modular Receiver continues Sencore's long history of leadership in the receiver/decoder space. The product boasts a full complement of cutting-edge features, including 4:2:2 H.264 8bit/10bit decoding, up to 8 individual audio PIDs, 16/32APSK satellite demodulation, and 1080p60 video support with 3G-SDI output. This feature set makes the MRD 5800 the ideal choice for contribution reception or demanding distribution applications which require a future-proof set of specifications.

Every 5800 ships with a full complement of basic inputs and outputs built-in, including ASI input and output and dual SD/HD/3G-SDI outputs. The addition of a digital video output means that video monitoring is as easy as finding the nearest standard consumer television or PC monitor. In addition, available factory-configurable MPEG over IP I/O and DVB-S2 receiver modules make adapting the product to almost any use case easy.

The receiver also maintains Sencore's long tradition of ease of use, with a straight-forward web interface accessible via all major browsers and complete control of the unit via the front panel keypad, and is backed by Sencore's best-in-class staff of ProCare support engineers.

APPLICATIONS

- **Receive and Decode Satellite or IP Contribution Feeds**
Pull in high-bitrate, high-quality 4:2:2 video feeds with up to 8 associated audio services via DVB-S, S2, or IP and decode to SDI for local processing or turn-around re-encoding. Be ready for upcoming satellite formats like 16/32APSK and multistream transmission.
- **Decode 1080p60 Video for Emerging Applications**
Receive Full HD video signals and decode to 3G-SDI for monitoring and turn-around of emerging cinematic, sports, or live-action content.
- **Create a Future-Proof Distribution Installation**
Prepare for the eventual transition of advanced formats into typical distribution, re-processing, and turn-around applications with the industry's most future-proof, powerful decoder platform.

KEY FEATURES

- Latest generation decoding technology enables support for nearly any video feed
 - √ H.264 4:2:2 8-bit or 10-bit video
 - √ MPEG-2 4:2:2 8-bit video
 - √ MPEG-2 or H.264 4:2:0 video
 - √ Up to 100 Mbps of video data
 - √ All formats auto-detected and switchable on-the-fly
- Up to 8 services of audio decoding with support for all major audio formats
- Dual 3G/HD/SD-SDI auto-switching outputs
- ASI, IP, and RF satellite inputs
- Full complement of ancillary data output in ANC and VBI
- Easy-to-use web interface
- Full control, status, and alarm monitoring via SNMP

SPECIFICATIONS

Advanced Modular Decoder MRD 5800

VIDEO DECODER WITH ASI I/O

MRD 58081

Base Video Decoding Features

Video Profile/Levels ¹ :	MPEG-2 MP@HL H.264 HiP@4.2 H.264 Constrained BP@4.2
Video ES Bitrates:	CAVLC Entropy Coded - 100Mbps CABAC Entropy Coded - 80Mbps
Frame Synchronization Modes:	PCR-Recovered Clock Internal Free-running Clock ² External Genlock Input ²
Aspect Ratio Conversion	
Manual Selection:	Letterbox, Center-Cut, Anamorphic
Automatic Selection:	Follows AFD Codes

¹ Additional profiles and levels available with 4:2:2 decoding license.

² Generator-locked decode operation requires genlock input license.

4:2:2 Video Decode License (MRD 58740)

Additional Video Profile/Levels:	MPEG-2 HP@HL H.264 Hi422P@4.2
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Genlock Decoding License (MRD 58701)

Enables genlock input:	1x 75Ω BNC
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Low Latency Decoding License (MRD 58780)

Enables special buffer mode in order to reduce decoder latency with optimized low-latency encoders.

Base Video Output Features

Output Formats

1080i x 1920 (16x9) @ 25, 29.97 and 30 Hz
1080p x 1920 (16x9) @ 23.97, 24, 25, 29.97, and 30 Hz
1080psF x 1920 (16x9) @ 23.97, 24, 25, 29.97, and 30 Hz
720p x 1280 (16x9) @ 50, 59.94, and 60 Hz
576i x 720 (4x3 or 16x9) @ 25 Hz
480i x 720 (4x3 or 16x9) @ 29.97 Hz

Output Interfaces

SD/HD/3G-SDI ³ :	2x 75Ω BNC
Digital Video:	1x HDMI-type Connector
Composite Output:	1x 75 Ω BNC NTSC, PAL-B/G/I/D/M/N

³ 3G-SDI mode only activated with 1080p60 video output.

1080p60 Video Output License (MRD 58720)

Additional Output Formats:	1080p x 1920 (16x9) @ 60Hz
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Base Audio Decoding Features

Number of Audio Services:	4 Standard, Up to 8 Available ⁴
Audio Codecs Supported:	Dolby Digital (AC-3) & Plus (EAC-3) AAC-LC, HE-AAC, & HE-AACv2 MPEG1L2 & MPEG2L2 Linear PCM & Dolby E (Pass-through)
Output Formats:	Digital Pass-through PCM (Downmixed for 5.1 Sources) Analog (Downmixed for 5.1 Sources)

⁴ Decoding 8 audio services requires the 8 service audio output license.

8 Service Audio Decode License (MRD 58880)

Enables decoding of 4 additional audio services (Total of 8 services)

Base Audio Output Features

AES Outputs:	8x 75Ω BNC
Analog Outputs:	2x 15 pin D-Sub (4 Stereo Services) 4x XLR Breakout Cable (MRD 58XX) 4x BNC Breakout Cable (MRD 58XX)
SDI Embedded Audio Output:	8 Audio Pairs

VIDEO DECODER WITH ASI I/O, CONTINUED

Ancillary Data Support

SDI VANC Data Types:	AFD (SMPTE 2016) Closed Captions (CEA-708) OP-47 (SMPTE RDD-08) SMPTE RDD-11 Time Code (SMPTE 12M-2) ⁵ Time Code (SMPTE 12M-2) ⁵
SDI HANC Data Types:	Line 21 Captions (CEA-608)
VBI Waveforms (SDI/Composite):	TVG2X, AMOL-48/96 (SCTE-127) Teletext/WSS/VPS (EN301775) Timecode in VBI (SMPTE 12M-1) ⁵

⁵ Time code source from GOP header (MPEG-2), SEI message (H.264) or VITC PES field (SCTE-127).

Video Overlay Support

Closed Caption Overlays:	CEA-608, CEA-708, or SCTE-20
DVB-Subtitle Overlays:	HD/SD with Auto Scaling (EN 300743)

Included Transport Stream Input/Output Features

ASI Input:	1x 75Ω BNC
ASI Output:	1x 75Ω BNC

BISS Descrambling License (MRD 58921)

Supported Modes:	Mode 1, Mode E, Injected ID
Multi-Service Support:	Up to 12 Separate Keys ⁶

⁶ Multi-key support requires multi-service descrambling license.

Multi-Service Descrambling License (MRD 58991)

With BISS License:	Enables Multi-key Descrambling
With DVB-CI Module:	Enables Multi-service Descrambling

DVB-CI DESCRAMBLING MODULE

MRD 58421

Physical Interface:	Adds two DVB-CI CAM Slots
Without Multi-Service License:	Descrambles Decoded Service Only
With Multi-Service License:	Number of Services limited by CAM

IP INPUT/OUTPUT MODULE

MRD 58127

Physical Interface:	2x RJ45, 10/100/1000 Auto-Negotiate
Input Format:	UDP or RTP Constant Bitrate or Null-Stripped RTP Header Extensions SMPTE 2022/CoP3 FEC UDP
Output Format:	1 to 7 TS Packets per IP Packet
IP Encapsulation:	Unicast or Multicast
Addressing:	Version 1, 2 & 3
IGMP compatibility:	250 Kbps to 250 Mbps
Per TS Bitrate:	

DVB-S/S2 INPUT MODULE

MRD 58116

Physical Interface:	4x 75Ω F-Type
Frequency Range:	950-2150 MHz
Symbol Rates:	1-45 MSps
DVB-S Modulation Modes:	QPSK (All FEC Rates)
DVB-S Modulation Modes:	QPSK/8PSK ⁷ (All FEC Rates)
LNB Power:	Off/13/14/18/19VDC @ 450mA
Control Tone Support:	22 kHz On/Off
	⁷ Higher-order modulation (16/32APSK) with advanced feature license.

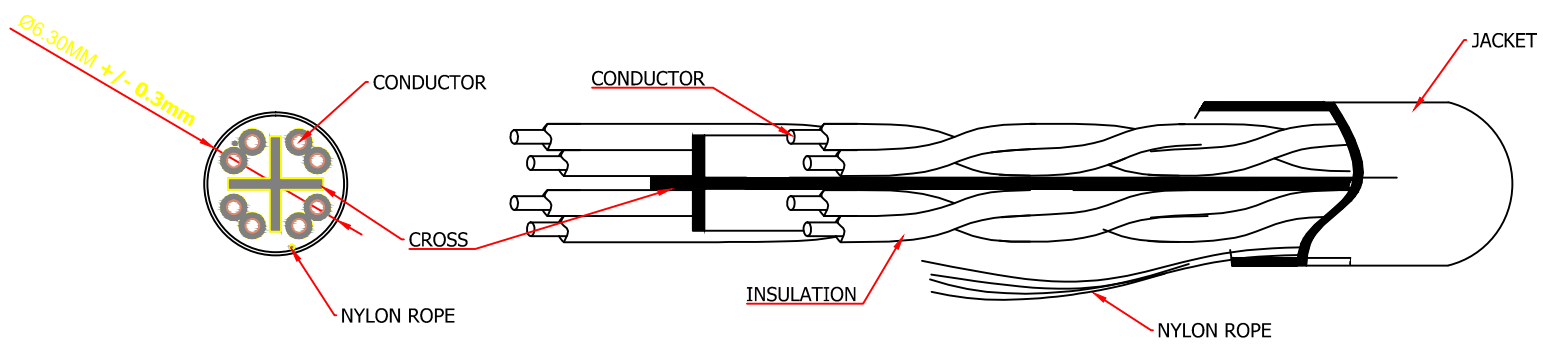
DVB-S2 Advanced Feature License (MRD 58916)

Additional Modulation Modes:	16ASPK/32APSK (All FEC Rates) VCM Demodulation Support Multistream Support (Single ISI)
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1 2 3 4 5 6 7 8

A
B
C
D
E
F

A
B
C
D
E
F



Product Specifications

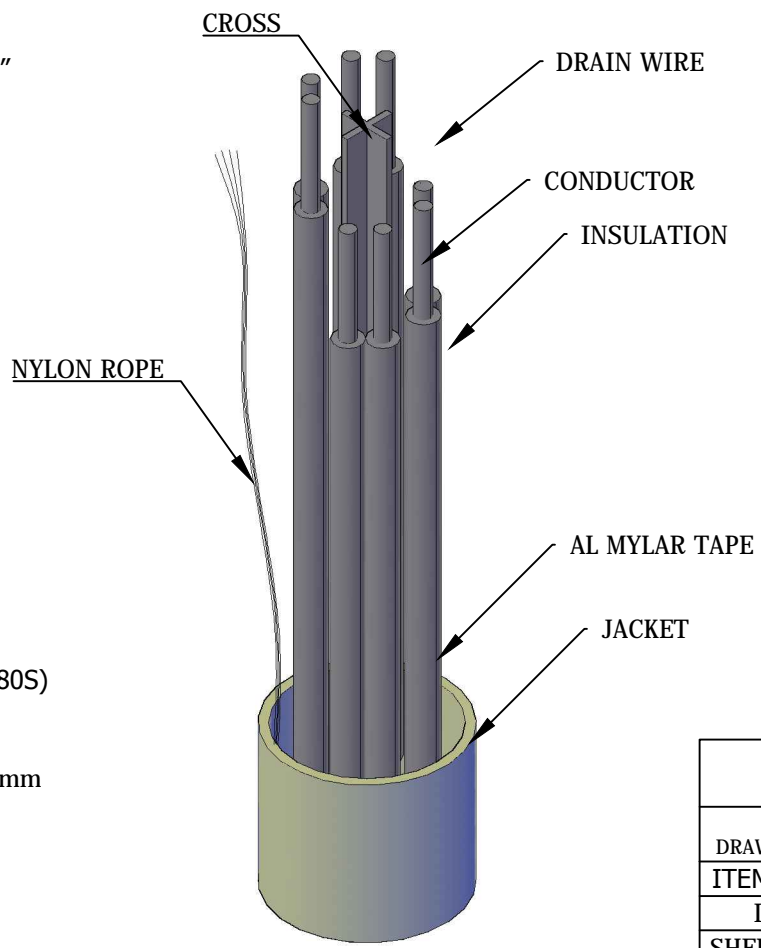
Wire Characteristics
 Cable Type UTP "Unshielded Twisted Pair"
 Number of Pairs 4
 Number of Wires 8
 Wire Type Solid Bare Copper
 Wire Gauge Size 23 AWG

Internal Characteristics
 Internal Jacket Material HDPE(CMI-75E)
 Average Min. Thickness 0.178 mm
 Min. Thickness 0.153 mm

Color Combinations
 Pair 1 Blue and White / Blue
 Pair 2 Orange and White / Orange
 Pair 3 Green and White / Green
 Pair 4 Brown and White / Brown

External Characteristics
 External Jacket Designation CM
 External Jacket Material 75°C PVC (CMI-80S)
 Average Min. Thickness 0.585 mm
 Min. Thickness 0.458 mm
 Average Cable Diameter 6.3 mm +/- 0.3mm
 Max. Strength 11 Kg
 Available Jacket Colors Gray, Blue, Red

AB356NXT01 - GRAY
 AB356NXT02 - BLUE
 AB356NXT03 - RED



NEXXT SOLUTIONS			
DATE: JUN 2014		DRAWING: ZARRAGA	
ITEM N°: AB356NXTxx			
DES : U/UTP CABLE CAT6 23AWG CM			
SHEET	1 OF 1	SCALE	3:1

1 2 3 4 5 6 7 8

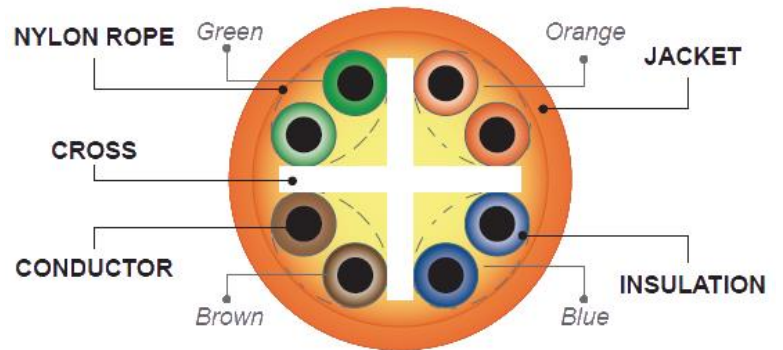
Our UTP category 6 cable is designed for top speed data transmission and consists of 4-pair 23 AWG copper wires. Manufactured in accordance with the highest data transmission standards for LAN networks, the Cat.6 twisted pair configuration guarantees top performance and meets all international telecommunications and electrical standards, including ANSI/TIA/EIA-568 C.2, and ISO/IEC 11801. It is perfect for structured cable installations of all kinds. Each box contains a reel with 1000 feet (305 meters) of cable.



AB356NXT01

AB356NXT02

AB356NXT03



Frequency	Att.	Pr-Pr	PS	Prop.	Delay	Return	Pr-Pr	PS
MHz	Solid	NEXT	NEXT	Delay ns	Skew ns	Loss	ELFEXT	ELFEXT
1	2.0	74.3	72.3	570	45	20.0	67.8	64.8
10	6.0	59.3	57.3	545	45	25.0	47.8	44.8
20	8.5	54.8	52.8	542	45	25.0	41.8	38.8
31.25	10.7	51.9	49.9	540.4	45	23.6	37.9	34.9
62.5	15.4	47.4	45.4	538.6	45	21.5	31.9	28.9
100	19.8	44.3	42.3	537.6	45	20.1	27.8	24.8
200	29.0	39.8	37.8	536.5	45	18.0	21.8	18.8
250	32.8	38.3	36.3	536.3	45	17.3	19.8	16.8

Product specifications

Wire characteristics

Cable type	UTP "Unshielded Twisted Pair"
Number of pairs	4
Number of wires	8
Wire type	Solid bare copper
Wire gauge size	23AWG

Internal characteristics

Internal jacket material	HDPE(CMI-75E)
Average min. thickness	0.178mm
Min. thickness	0.153mm

Color combinations

Pair 1	Blue and white / Blue
Pair 2	Orange and white / Orange
Pair 3	Green and white / Green
Pair 4	Brown and white / Brown

External characteristics

External jacket designation	CM
External jacket material	75°C PVC (CMI-80S)
Average min. thickness	0.585mm
Min. thickness	0.458mm
Average cable diameter	6.3mm +/- 0.3mm
Max. strength	11kg
Available jacket colors	Gray, bluer Red

Electrical characteristics

Voltage rating	300V
Temperature rating	75°C
Characteristic impedance (Zo)	85-115Ω (1-250MHz)
Conductive resistance	Max C/ 100M 20°C
DC Resistance capacitance unbalance	5%
Pair-to-Ground capacitance unbalance	Max 330 pF/100m
Mutual capacitance	Max 5600 pF/100m
Dielectric strength	DC 2,5kV/2sec or AC 1,75kV/2sec
Nominal Velocity of propagation (NVP)	69%

Transmission characteristics

Transmission speed	1,000 Mbps / 1 Gbps
Bandwidth	250 MHz
Link max. distance	90 m

Certifications and standards

International standards	ANSI/TIA/EIA-568-C.2 and ISO/IEC 11801
UL certificate	20080117 – E318654, DUZX.E318654, DVBI.E356966
ETL certificate	100227874CRT-001f

Miscellaneous

	GRAY	BLUE	RED
Color	GRAY	BLUE	RED
MPN	AB356NXT01	AB356NXT02	AB356NXT03
UPC	798302010192	798302010147	798302010178

NEXXT U/UTP INSTALL CABLE 23AWG 4PR CM 75 °C (UL) E318654 ETL
 Verified rated ANSI/TIA 568C.2 CAT.6 XXXXXXXX-X XXXM
www.nexxtsolutions.com

Packaging	Carton box
Cable length	1000ft / 305m
Cu.ft	1.62
Warranty	Limited lifetime warranty*



NetUP IPTV Combine 8x

- Unified
- Compact
- Multifunctional

NetUP IPTV Combine 8x is a powerful IPTV head-end with **middleware server**, **billing system** and **VoD server** running on a single platform. It is capable of receiving, demultiplexing and decoding of up to 100 channels from 8 DVB inputs and can be expanded with additional streamers or VoD/TVoD servers. Can be optionally equipped with transcoder or FIASv2 hotel PMS support.



Physical & Power	<ul style="list-style-type: none"> • height: 1U • weight: 11.5 kg • dimensions (WHD): 430x44x41mm • standard rack-mount case for 19" telecom rack • power supply: 90 ~ 264 Volts, 47 ~ 63 Hz
Inputs/Outputs	<ul style="list-style-type: none"> • 4x Gigabit Ethernet 10/100/1000 Mb/s • 8x DVB-S/S2/T/T2/C/C2 receivers (optional ATSC) • 8x CI slots for CAM
Disk Drives	<ul style="list-style-type: none"> • flash card for reliable storage of OS and configuration files • 1Tb 7.2k rpm internal HDD storage
Administration and control	<ul style="list-style-type: none"> • front panel LCD for configuration and system summary information • administration Web interface • ssh console, Linux 2.6.x OS • RS-232 console
Performance	<ul style="list-style-type: none"> • 8 transponders/multiplexes, 500 Mb/s total bandwidth, 100 TV channels
Headend software	<ul style="list-style-type: none"> • Middleware • Billing • VoD server (50 concurrent streams, 1Tb storage, expandable) • Optional support to hotel PMS (MICROS Fidelio) via FIASv2 protocol





- Scalable
- Compact
- Universal

NetUP DVB-IP gateway 8x is a powerful IPTV platform in compact casing. It is capable of receiving, demultiplexing and decoding of up to 100 channels from 8 DVB inputs. Received channels can be streamed as MPEG-TS to a destination multicast/unicast IP address. The platform is horizontally scalable and can be upgraded to Combine 8x or equipped with optional transcoder.



Physical & Power	<ul style="list-style-type: none"> • height: 1U • weight: 11.5 kg • dimensions (WHD): 430x44x41mm • standard rack-mount case for 19" telecom rack • power supply: 90 ~ 264 Volts, 47 ~ 63 Hz
Inputs/Outputs	<ul style="list-style-type: none"> • 4x Gigabit Ethernet 10/100/1000 Mb/s • 8x DVB-S/S2/T/T2/C/C2 receivers • 8x CI slots for CAM
Disk Drives	<ul style="list-style-type: none"> • flash card for reliable storage of OS and configuration files • 1Tb 7.2k rpm internal HDD storage
Administration and control	<ul style="list-style-type: none"> • front panel LCD for configuration and system summary information • administration Web interface • ssh console, Linux 2.6.x OS • RS-232 console
Performance	<ul style="list-style-type: none"> • 8 transponders/multiplexes, 500 Mb/s total bandwidth, 100 TV channels
Optional	<ul style="list-style-type: none"> • Transcoder module • Upgrade to Combine 8x





NetUP Android IP Set Top Box



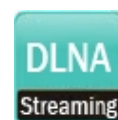
Product Features:

Amlogic S805 Quad Core CPU

- + Quad Core ARM Cortex-A5 CPU @ 1.5GHz
- + Mali 450 GPU @ 600MHz
- + 1GB DDR3 memory
- + 8GB EMMC
- + Android OS 4.4
- + Support H.265
- + CVBS

DLNA

Support DLNA streaming. You can easily stream photos, videos, music from your Android Phone/Pad to the TV.



Rich Applications

There are over 1 million applications in the market, and supports most famous applications like: Youtube, Facebook, and Twitter, etc...

Mali-450 MP4 GPU

Mali-450 MP4 GPU comes with 4 cores and is designed to maximize reuse of the available resources during graphics operation. Therefore it is able to deliver both performance and power efficiency.

Customizable GUI

We provided GUI customization and we have a vast collection of Launcher created by our R&D team for you to choose from.



Product Specifications

CPU	Quad Core ARM Cortex-A5 CPU @
GPU	1.5GHz Mali 450 GPU @ 600MHz
RAM	1Gb DDR3
ROM	8Gb EMMC
OS	Android 4.4 OS
Optional	DOLBY
USB	USB2.0 x2
HDMI	V1.4a
DC Input	5.0V-2A
MicroSD Slot	Max: 32Gb
Video Output	HDMI/
CVBS Audio Output	
HDMI/RCA IR Receiver	
LAN	RJ45 10/100M Ethernet interface
WiFi	IEEE 802.11 b/g/n, 2.4GHz (5GHz Optional)
BT	Optional



Audio Decoder

Supports MP3, AAC, WMA, RM, FLAC, Ogg and programmable with 5.1 down-mixing

Video/Picture Decoder

H.265 HEVC MP@L4.1 up to 1080P@60fps

H.264 AVC HP @L4.2 up to 1080P@60fps

H.264 MVC up to 1080P@60fps

MPEG-1 MP/HL up to 1080P@60fps

MPEG-2 MP/HL up to 1080P@60fps

MPEG-4 ASP@L5 up to 1080P@60fps

WMV/VC-1 SP/MP/AP up to 1080P@60fps

RealVideo 8/9/10 up to 1080P@60fps

Multiple language and multiple format sub-title video support

MJPEG and JPEG unlimited pixel resolution decoding

Supports JPEG thumbnail, scaling, rotation and transition effects

Support .mkv/.wmv/.mpg/.mpeg/.dat/.avi/.mov/.iso/.mp4/.rm/.jpg file formats

Size 100x100x15mm

Net Weight 160g

User's Guide

HDMI Cable

IR Remote Controller **Optional**

Optional Remote Controller **2.4GHz wireless Remote Controller with Nano receiver**

USB wire/wireless Mouse & Keyboard

Power Adapter AC100 ~ 240V 50/60Hz

Tabla de características de los principales cables coaxiales

Características de los Cables Coaxiales													
Coaxial	Ohm	Factor Veloc	Aislan. Dieléct.	Tensión Máx RMS	pF Por Metro	Atenuación en decibelios por cada 100 mts							Diam. en mm
						10 Mhz	50 Mhz	100 mhz	200 Mhz	400 Mhz	1 Ghz	3 Ghz	
RG-5	50	0,66	Esp PE	-----	93,5	2,72	6,23	8,85	13,5	19,4	32,15	75,5	8,3
RG-6	75	0,66	Esp PE	-----	61,6	2,72	6,23	8,85	13,5	19,4	32,15	75,5	8,5
RG-8	52	0,66	PE	4.000	97	1,8	4,27	6,23	8,86	13,5	26,3	52,5	10,3
RG-9	51	0,66	PE	4.000	98	2,17	4,92	7,55	10,8	16,4	28,9	59	10,7
RG-10	52	0,66	-----	-----	100	1,8	4,25	6,25	8,85	13,5	26,3	52,5	12
RG-11	75	0,66	Esp PE	4.000	67	2,18	5,25	7,55	10,8	15,8	25,6	54	10,3
RG-12	75	0,66	PE	4.000	67	2,18	5,25	7,55	10,8	15,8	25,6	54	12
RG-13	74	0,66	-----	-----	67	2,18	5,25	7,55	10,8	15,8	25,6	54	10,7
RG-14	52	0,66	-----	-----	98,4	1,35	3,28	4,6	6,55	10,2	18	41	13,9
RG-17	52	0,66	PE	11.000	67	0,8	2,05	3,15	4,9	7,85	14,4	31,1	22,1
RG-18	52	0,66	-----	-----	100	0,8	2,05	3,15	4,9	7,85	14,4	31,1	24
RG-19	52	0,66	-----	-----	100	0,55	1,5	2,3	3,7	6,05	11,8	25,3	28,5
RG-20	52	0,66	-----	-----	100	0,55	1,5	2,3	3,7	6,05	11,8	25,3	30,4
RG-21	53	0,66	-----	-----	98	14,4	30,5	47,7	59	85,3	141	279	8,5
RG-34	75	0,66	-----	-----	67	1,05	2,79	4,6	6,9	10,8	19	52,5	15,9
RG-35	75	0,66	-----	-----	67	0,8	1,9	2,8	4,15	6,4	11,5	28,2	24
RG-55	53,5	0,66	PE	1.900	93	3,94	10,5	15,8	23	32,8	54,1	100	5,3
RG-58	50	0,66	PE	1.900	93	4,6	10,8	16,1	24,3	39,4	78,7	177	5
RG-59	73	0,66	PE	600	69	3,6	7,85	11,2	16,1	23	39,4	87	6,2
RG-74	52	0,66	-----	-----	98	1,35	3,28	4,59	6,56	10,7	18	41	15,7
RG-122	50	0,66	-----	-----	-----	5,58	14,8	23	36,1	54,1	95,1	187	4,1
RG-142	50	0,7	PTFE	1.900	96	3,6	8,85	12,8	18,5	26,3	44,25	88,6	4,9
RG-174	50	0,66	PTFE	1.500	101	12,8	21,7	29,2	39,4	57,4	98,4	210	2,6
RG-177	50	0,66	-----	-----	-----	0,7	2,03	3,12	4,92	7,85	14,4	31,2	22,7
RG-178	50	0,69	-----	-----	-----	18,4	34,5	45,9	63,3	91,9	151	279	1,9
RG-179	75	0,69	-----	-----	-----	17,4	27,9	32,8	41	52,5	78,7	144	2,5
RG-180	95	0,69	-----	-----	-----	10,8	15,1	18,7	24,9	35,5	55,8	115	3,7
RG-187	75	0,69	-----	-----	-----	17,4	27,9	32,8	41	52,5	78,7	144	2,8
RG-188	50	0,69	-----	-----	-----	19,7	31,5	37,4	46,6	54,8	102	197	2,8
RG-195	95	0,69	-----	-----	-----	10,8	15,1	18,7	24,9	35,4	55,8	115	3,9
RG-196	50	0,69	-----	-----	-----	18,4	34,5	45,2	62,3	91,9	151	279	2
RG-212	50	0,66	-----	-----	-----	2,72	6,23	8,86	13,5	19,4	32,2	75,5	8,5
RG-213	50	0,66	PE	5.000	101	1,8	4,3	6,25	8,85	13,5	26,3	52,5	10,3
RG-214	50	0,66	PE	5.000	101	2,15	4,95	7,55	10,8	16,4	28,9	59	10,8
RG-215	50	0,66	PE	5.000	101	1,8	4,3	8,2	8,85	13,5	26,3	52,5	10,3
RG-216	75	0,66	PE	5.000	67	2,15	5,25	7,55	10,8	15,8	25,6	54,1	10,8
RG-217	50	0,66	-----	-----	-----	1,35	3,3	4,6	6,55	10,2	18	40,5	13,8
RG-218	50	0,66	-----	-----	96	0,8	2,05	3,1	4,9	7,85	14,4	31,2	22,1
RG-219	50	0,66	-----	-----	-----	0,8	2,05	3,1	4,9	7,85	14,4	31,2	24
RG-220	50	0,66	-----	-----	96	0,55	1,5	2,3	3,7	6,1	11,8	25,5	28,5
RG-221	50	0,66	-----	-----	-----	0,55	1,5	2,3	3,7	6,1	11,8	25,5	30,4
RG-222	50	0,66	-----	-----	-----	14,4	30,5	42,7	59,1	85,3	141	279	8,5
RG-223	50	0,66	PE	1.900	101	3,95	10,5	15,8	23	32,8	54,1	100	5,4
RG-302	75	0,69	-----	-----	-----	1,5	4	10,8	15,4	22,6	41,9	85,25	5,3
RG-303	50	0,69	-----	-----	-----	3,61	8,86	12,8	18,5	26,3	44,3	88,6	4,3
RG-316	50	0,69	-----	-----	-----	19,7	31,5	37,4	46,6	54,8	102	197	2,6
NOTAS	PE = Polietileno												
	Esp.PE = Espuma de Polietileno												
	PTFE = Teflón (Politetrafluoroetileno)												
	RG-214 y RG-223 = Con doble protección (Doble apantallado)												